SELECTIVE ETCH OF FILMS WITH HIGH DIELECTRIC CONSTANT

ABSTRACT OF THE DISCLOSURE

A method for selectively etching a high dielectric constant layer over a silicon substrate is provided. The silicon substrate is placed into an etch chamber. An etchant gas is provided into the etch chamber, where the etchant gas comprises BCl_3, an inert diluent, and Cl_2, where the flow ratio of the inert diluent to BCl_3 is between 2:1 and 1:2, and where the flow ratio of BCl_3 to Cl_2 is between 2:1 and 20:1. A plasma is generated from the etchant gas to selectively etch the high dielectric constant layer.